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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/607,963	06/27/2003	Jordi Parramon	AB-233U	3067

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EXAMINER

MALAMUD, DEBORAH LESLIE

ART UNIT	PAPER NUMBER
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3766

DATE MAILED: 06/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/607,963

Applicant(s)

PARRAMON ET AL.

Examiner

Deborah Malamud

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 July 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. The examiner acknowledges the amendments received 28 April 2006. Claims 1-20 are pending.

Double Patenting

2. The provisional rejection of claims 1-3 and 8 on the judicially-created doctrine of obviousness-type double patenting is maintained. The applicant will address this rejection at a later time.

Response to Arguments

3. Applicant's arguments, see "Remarks" pages 2-5, filed 28 April 2006, with respect to the rejection(s) of claim(s) 1-20 under Nordling (U.S. 4,441,498) in view of Shulman et al (U.S. 5,193,539) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Richmond et al (U.S. 6,240,316).

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 10, 12-13, 16-18 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Richmond et al (U.S. 6,240,316). Regarding claims 1, 12 and 18, Richmond discloses (col. 3, lines 40-57) an implantable microstimulator including "(1) A narrow, elongated form factor suitable for implantation through the lumen of a hypodermic needle or laparoscopic instrument; (2) Electronic components encapsulated in a hermetic package made from a biocompatible material; (3) At least two electrodes on the outside of the package for the application of stimulation current to surrounding tissue; (4) An electrical coil inside the package that receives power and data by inductive coupling to a transmitting coil placed outside the body, avoiding the need for electrical leads to connect devices to a central implanted or external controller; and (5) Means for temporary storage of electrical power within the microstimulator." The examiner considers this to be a hermetically-sealed housing (1 and 2), an electronic subassembly housed within the housing (2), a first and second electrode external to the housing and electrically coupled to the electronic subassembly, an antenna coil and telemetry means (4) and a self-contained power source means contained within the housing and connected to the electronic subassembly for providing operating power to the electronic subassembly (5). Richmond further discloses (col. 6, lines 8-11) "the microstimulator is housed within a tubular housing having a diameter no greater than about 3-4 mm, preferably only about 1.5 mm, and a length no greater than about 10-12 mm."
6. With further regard to claim 18, Richmond discloses (col. 10, lines 8-17) stimulating muscle and/or nerve tissue.

7. Regarding claims 10, 13, 16-17 and 20, Richmond discloses (col. 7, lines 21-25) the device “includes bidirectional data telemetry plus a rechargeable battery (or other power storage component, such as an ultracapacitor) permitting autonomous function in the absence of external power transmission.”

Claim Rejections - 35 USC § 103

8. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

9. Claims 2-7, 9 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Richmond et al (U.S. 6,240,316) in view of Shulman et al (U.S. 5,193,539).

Regarding claims 2-3, Richmond discloses the claimed invention except for a ferrite core around which the antenna coil is wrapped. Shulman however discloses (col. 11, lines 50-52) “the coil (11) is shown wound around a ferrite core (50). Such core is cylindrical and is manufactured in two halves with a U-channel in each one.” Coil 11 is a “secondary coil” within the microstimulator that “receives energy and control information from the modulated, alternating magnetic field provided by coil (1) and passes such energy and information to electronic control means which comprises power supply and data detector which, in turn, provides power to an electrode recharge current controller and stimulating electrodes (14 and 15).” Though coil 11 is not specifically named as an antenna, its purpose is identical to an antenna. Therefore, the examiner considers Schulman to teach an antenna coil wound around a ferrite core that includes a first half and a second half. See Figure 8. Shulman and Richmond both teach

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implantable microstimulators for stimulating nerves. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Richmond's antenna coil with Shulman's ferrite core in order to use a magnetic field to inductively charge the battery and modulate stimulation.

10. Regarding claims 4, 9 and 11, Richmond discloses (col. 7, lines 21-25) the device "includes bidirectional data telemetry plus a rechargeable battery (or other power storage component, such as an ultracapacitor) permitting autonomous function in the absence of external power transmission."

11. Regarding claim 5, Richmond discloses (col. 6, lines 8-11) "the microstimulator is housed within a tubular housing having a diameter no greater than about 3-4 mm, preferably only about 1.5 mm, and a length no greater than about 10-12 mm."

12. Regarding claim 6, Richmond discloses (col. 6, lines 30-39) "each implant receives the RF energy, converts it into a regulated DC supply to operate its integrated circuit chip, and stores stimulus pulse energy in a capacitor (either discrete capacitor in the hermetic package or an electrolytic capacitor formed by the stimulating electrodes themselves and the saline body fluids). When the implant receives the appropriate command data, it generates the required stimulation pulse releasing energy stored in the capacitor, and then recharging the capacitor between output pulses." The examiner considers this to be means for generating stimulation pulses that are applied through the first and second electrodes.

13. Regarding claim 7, Richmond discloses (col. 3, lines 48-50) the microstimulator includes “at least two electrodes on the outside of the package for the application of stimulation current to surrounding tissue.”

14. Claims 8, 14-15 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Richmond et al (U.S. 6,240,316) in view of Shulman et al (U.S. 6,164,284). Regarding claims 8, 14 and 19, Richmond discloses the claimed invention except for a primary battery. Shulman however discloses (col. 14, lines 8-20) an implantable microstimulator that uses a battery (104), which “may be either a primary battery or a rechargeable battery. A primary battery offers the advantage of a longer life for a given energy output but presents the disadvantage of not being rechargeable (which means once its energy has been used up, the implanted device no longer functions). However, for many applications, such as one-time-only muscle rehabilitation regimens applied to damaged or weakened muscle tissue, the SCU [system control unit] and/or devices need only be used for a short time (after which they can be explanted and discarded, or simply left implanted as benign medical devices).” Richmond and Shulman both disclose implantable microstimulators for stimulating nerves of a patient. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Richmond’s power source with Shulman’s primary battery in order to apply short-term therapy without the need to recharge or replace for the entirety of the therapy.

15. Regarding claim 15, Richmond discloses (col. 7, lines 21-25) the device “includes bidirectional data telemetry plus a rechargeable battery (or other power storage

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component, such as an ultracapacitor) permitting autonomous function in the absence of external power transmission."

Conclusion

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Deborah Malamud whose telephone number is (571) 272-2106. The examiner can normally be reached on Monday-Friday, 8.00am-5.30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pezzuto can be reached on (571)272-6996. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


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